Maricopa County
Air Quality Department

Dust Control Plan and O&M Plan Review

RESERVED FOR CONTROL OFFICER		
Section	Approved	
DCP	Yes No	
O & M	Yes No	
Comments		
Name	Signature	
Reviewed By	Date	Time

RULE 316 DUST CONTROL PLAN CHANGE REQUEST

Date of Request: ☐ Revision ☐ Initial
Permit Number: Township/Range/Section
Is this a Portable Permit ☐YES or ☐ NO
Permit Holder:
Project Name:
Project Location:
Address:
Reason for Change:
Was this a result of a violation being issued? ☐YES or ☐NO Violation Number
Requested by: (Print)
(Signature)
1. Special Instructions:
2. Attach page change
3. Attach updated Map
4. Equipment change may require a permit modification.
Fax: 602-506-0586 **or Mail to:** 1001 N. Central Ave, Ste 400, Phoenix, AZ 85004

(Information provided on this Dust Control Plan indicates minimal requirements of the Air Quality Rules 316 and other associated operations; additional space is provided for requirements not listed.)

Attach Project Site Drawing: A Dust Control Plan will not be approved unless a drawing is submitted. Attach a separate (8 ½" x 11") page with a drawing showing all of the following elements.

- Entire project site property boundaries
- Property boundaries with linear dimensions (including staging areas, stockpiles, trackout configurations , Haul Roads, Access roads, storage and parking areas, and permanent areas of site)
- Nearest public cross roads (If portable permit give directions along with move notice)
- North arrow
- Planned exit locations onto paved areas accessible to public or unpaved roadways
- Names of Streets

ATTACHED JUSTIFICATIONS FOR ALTERNATIVE SOIL MOISTURE TESTING PROTOCOL

Alternative Minimum Moisture Content

Must provide ALL of the following:

- ☐ Explanation of technical feasibility limitations that includes a process diagram identifying products lines and feeds, certified lab results, etc.
- ☐ Explanation of economic feasibility following the BACT Guideline at http://www.maricopa.gov/aq/divisions/permit_engineering/docs/pdf/Bact.pdf, if applicable.
- ☐ Throughputs and emissions rates.
- ☐ Water availability.
- ☐ Any other information pertinent to the rationale supporting the requested alternative.

Reduction in the Frequency of Testing for Approved Alternative Minimum Moisture Contents

Must Provide ALL of the following:

- ☐ Identify requested sampling frequency including time and day of the week sampling will be conducted.
- ☐ Include all sampling results from the points identified in 2(t).A (page 14) recorded to the nearest tenth of a percent from a minimum of four weeks of testing at the frequency described in 2(t).B. (page 14)
- ☐ If applying to reduce sampling frequency verify the consistency of operation as indicated through sampling results that are all results are greater than the approved alternative minimum moisture content.

Reduction in the Number of Sampling Points

Must provide ALL of the following:

- ☐ Describe the proposed reduction in number of sampling points identifying which of the sampling points will remain in the sampling protocol on the process diagram submitted in 2(t).A. (page 14)
- ☐ Include all sampling results from the points identified in 2(t).A.1 (page 14) recorded to the nearest tenth of a percent from a minimum of 20 samples at all points of testing at the frequency described in 2(t).B. (page 14)
- ☐ Verify the consistency of operation as indicated through sampling results at the primary crusher that are all greater than 5.0% or the approved alternative minimum moisture content plus 1.0%.
- ☐ Verify the consistency of operation as indicated through sampling results for all other sampling points identified in 2(t).A (page 14) that are all greater than 4.0% or the approved alternative minimum moisture content

Request For Alternate Moisture Testing Equipment Or Methods

Must provide ALL of the following:

- ☐ Describe alternative testing equipment and include the product specification sheet, range of the dial and maintenance recommendations [given the required moisture content dials should be up to 10% for Speedy Moisture Tester]
- ☐ Present an analysis of the correlation between sampling results from the alternative testing equipment and sampling results obtained following ASTM C566-97 (2204) except for sample size [use correlation to establish representative minimum for key parameters]
- ☐ Include a QA/QC plan for the alternative testing equipment
  - **a.** Include the frequency of calibration to ASTM C566-97 (2204) [MCAQD expects to see the calibration performed weekly? every 2 weeks?]
  - **b.** Includes a contingency plan for system failure [need to assure MCAQD that can go immediately to an appropriate and functioning back-up]
- ☐ Limitations on alternative moisture testers
  - **a.** Type of material being processed affects results—need to condition approval based on material characteristics
  - **b.** Pan needs to be kept clean and carbide active for speedy moisture tester

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Section 1 – Applicant Information

1(a) Applicant Information:

Applicant Name	
Mailing Address	
Non-Title V Permit Number	
Site Name	
Site Location	
Submittal Date	
If portable, must include new location	
Is a site map with boundaries attached?	
Are there other attachments? (Please name)	

1(b) Person responsible submitting the Dust Control Plan:

Name	
Position	
Address	
Site Address	
Phone numbers	Office:
	Cell:
	Fax:

1(c) Name(s) of person(s) responsible for the implementation of the Dust Control Plan: (More Space provided below)

Site Contact (e.g. Site Superintendent)	
Position/Title	
Contact Address	
Site Address	
Phone numbers	Office:
	Cell:
	Fax:

Space provided to list additional names of all Certified Dust Control Technicians at the Facility (see item 1(d) for requirements)

1(d) Fugitive Dust Control Technician: (§309)

The owner and/or operator of a facility with a rated or permitted capacity of 25 tons or more of material per hour or with five acres or more of disturbed surface area subject to a permit, whichever is greater, shall have in place a Fugitive Dust Control Technician, who shall meet all of the following qualifications:	
Initial to Indicate Requirement Met	Qualifications
	Be authorized by the owner and/or operator of the facility to have full authority to ensure that fugitive dust control measures are implemented on-site and to conduct routine inspections, recordkeeping, and reporting to ensure that all fugitive dust control measures are installed, maintained, and used in compliance with this rule
	Be trained in accordance with the Comprehensive Dust Control Training Class conducted or approved by the Control Officer, successfully complete, at least once every three years, such Comprehensive Dust Control Training Class, and have a valid dust training certification identification card readily accessible on-site while acting as a Fugitive Dust Control Technician
	Be authorized by the owner and/or operator of the facility to install, maintain, and use fugitive dust control measures, deploy resources, and shutdown or modify activities as needed
	Be on-site at all times during primary dust generating operations related to the purposes for which the permit was obtained
	Be certified to determine opacity as visible emissions in accordance with the provisions of the EPA Method 9 as specified in 40 CFR, Part 60, Appendix A
	Be authorized by the owner and/or operator of the facility to ensure that the site superintendent or other designated on-site representative of the owner and/or operator of the facility and water truck and water pull drivers for each site be trained in accordance with the Basic Dust Control Training Class conducted or approved by the Control Officer with jurisdiction over the site and successfully complete, at least once every three years, such Basic Dust Control Training Class

1(e) Indicate Soil Designations From Appendix F in Maricopa County Air Pollution Control Regulations or Attach A Copy of The Site Geotechnical Report:

If the soil on the work site has been tested, then you should rely on the test results to complete the table and attach a copy of the site soil report (boring logs) to this application. If the soil on the work site has not been tested, then use Appendix F in the Maricopa County Air Pollution Control Regulations to complete the table below.	
Soil Texture Naturally Present on Work Site	Soil Texture to be Imported onto Work Site

Section 2 - Dust Control Plan

Fugitive Dust Control Measures (or combination thereof to be applied to all actual and potential fugitive dust sources, before, after, and during any dust generating operation, including on weekends, after work hours, and on holidays.) Fugitive dust control measures shall be implemented to comply with Rule 316 and Rule 310 emissions limits standards.

SECTION 2 INSTRUCTIONS: Circle P if a Primary Control Measure and C if a Contingency Control Measure. A Primary AND a Contingency Control measure must be circled unless otherwise indicated. If Primary Control Measure is water application, Contingency will not be water application. If Control Measures do not apply, explain why. Note: Ceasing operations does not relieve obligation to comply with control measures or defend failure to apply them.

2(a) Prior to, and/or while conducting loading and unloading operations (§307.1a)

Indicate at least one Primary and one Contingency Measures (Check)	
☐ P ☐ C	(1) Spray material with water, as necessary
☐ P ☐ C	(2) Spray material with a dust suppressant other than water, as necessary (List supplements at end of plan)
■ ☐ C	Cease operations until emission and stability standards are met.
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer) _____
or, explain why this control measure is not applicable_____ _____	

2(b) When not conducting stacking, loading, and/or unloading operations, implement one of the following fugitive dust control measures (§307.1b)

Indicate at least one Primary and one Contingency Measures (Check)	
☐ P ☐ C	(1) Spray material with water, as necessary
☐ P ☐ C	(2) Maintain a 1.5% or more soil moisture content of the open storage pile(s)
☐ P ☐ C	(3) Locate open storage pile(s) in a pit/in the bottom of a pit
☐ P ☐ C	(4) Arrange open storage pile(s) such that storage pile(s) of larger diameter products are on the perimeter and act as barriers to/for open storage pile(s) that could create fugitive dust emissions
☐ P ☐ C	(5) Construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%
☐ P ☐ C	Cover open storage piles with tarps, plastic, or other material to prevent wind from removing the coverings
☐ P ☐ C	Other (not listed) measures will be taken so that the standards are met (Must be approved by Control Officer_____
or, explain why this control measure is not applicable._____ _____	

2(c) When installing new open storage pile(s)(§307.1c)

Indicate at least one Primary and one Contingency Measures (Check)	
Must Check Both (Required)	
☐ P	Install the open storage pile(s) at least 25 feet from the property line
☐ P	Limit the height of the open storage pile(s) to less than 45 feet
☐ N/A	Other (not listed) measures taken so that the standards in Rule 316 and 310 are met (Must be approved by Control Officer)
Explain why this control measure is not applicable or feasible._____ _____	

2(d) For existing open storage pile(s) and when installing open storage pile(s) for an existing facility or for a new facility, if such open storage pile(s) will be constructed over eight feet high and will not be covered(§307.1d)

Indicate at least one Primary and one Contingency Measures (Check)	
☐ P ☐ C	Install, use, and maintain a water truck
☐ P ☐ C	Other method that is capable of completely wetting the surfaces of open storage pile(s) (indicate below) _____ ☐ Sprinkler ☐ Irrigation ☐ Other_____
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer) _____
or, explain why this control measure is not applicable._____ _____	

2(e) Surface Stabilization Where Support Equipment and Vehicles Operate: Owner and/or operator of a facility shall implement one of the following fugitive dust control measures on areas other than the areas identified in Section 307.3 and Section 307.4 of this rule where loaders, support equipment, and vehicles operate.(§307.2)

Indicate at least one Primary and one Contingency Measures (Check)	
☐ P ☐ C	a. Apply and maintain water
☐ P ☐ C	b. Apply and maintain a dust suppressant, other than water (List suppressants at end of plan)
☐ P ☐ C	c. Apply a gravel pad, in compliance with section 307.6(b) (4) of this rule. Gravel pad shall be designed with a layer of washed gravel, rock, or crushed rock that is at least one inch or larger in diameter and 6 inches deep, 30 feet wide, and 50 feet long and shall be flushed with water or completely replaced as necessary
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer)_____
or, explain why this control measure is not applicable._____ _____	

2(f) Haul/Access Roads That Are Not in Permanent Areas of A Facility (§307.3a)

Indicate at least one Primary and one Contingency Measures (Check)	
☐ P ☐ C	Install and maintain bumps, humps, or dips for speed control and apply water, as necessary
☐ P ☐ C	Limit vehicle speeds and apply water, as necessary
☐ P ☐ C	Pave
☐ P ☐ C	Apply and maintain a gravel pad in compliance with Section 307.6(b)(4) of this rule. (Gravel pad shall be designed with a layer of washed gravel, rock, or crushed rock that is at least one inch or larger in diameter and 6 inches deep, 30 feet wide, and 50 feet long and shall be flushed with water or completely replaced as necessary.)
☐ P ☐ C	Apply a dust suppressant, other than water
☐ P ☐ C	Install and maintain a cohesive hard surface

2(g) Haul/Access Roads That Are Not in Permanent Areas of A Facility (§307.3b)

Indicate at least one (Check)	
☐ Yes ☐ No	For a new facility, if implementing one of the fugitive dust control measures described in Section 307.3(a) of this rule is determined to be technically infeasible as obtained/approved in writing by the Control Officer and the Administrator of the Environmental Protection Agency (EPA) and as approved in the Dust Control Plan, then the owner and/or operator of a new facility shall maintain a minimum distance of 25 feet from the property line for haul/access roads associated with the new facility. (Attach map indicating boundaries and dimensions.)
☐ Yes ☐ No	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer)_____
or, explain why this control measure is not applicable or feasible._____ _____	

2(h) On-Site Traffic: (Attach map indicating types of COHESIVE HARD SURFACE defined as any material including, but not limited to, pavement, recycled asphalt mixed with a binder, or a dust suppressant other than water applied and maintained as a roadway surface)(§307.4)

Indicate all required Primary and Contingency Measures (Check)	
☐ P (Required)	Require all batch trucks and material delivery trucks to remain on internal roads with paved surfaces or cohesive hard surfaces in the permanent areas of the facility/operation
☐ P (Required)	Require all aggregate trucks to remain paved surfaces or cohesive hard surfaces, except when driving on roads leading to and from aggregate loading areas/loading operations
☐ P (Required)	The owner and/or operator of a facility shall require all batch trucks and material delivery trucks to enter and exit the facility/operation only through entrances that comply with the track out requirements in Section 307.6 of this rule
☐ P (Required)	Pave or install a cohesive hard surface on permanent areas of a facility on which vehicles drive
■ ☐ C	Cease Operations until Emission and Stability Standards are met.
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer) _____
or, explain why this control measure is not applicable._____ _____	

2(i) Off-Site Traffic: When hauling and/or transporting bulk material off-site (All must be met)(§307.5)

Indicate all required Primary and Contingency Measures (Check)	
☐ P (Required)	Load all haul trucks such that the freeboard is not less than three inches
☐ P (Required)	Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate(s)
☐ P (Required)	Cover haul trucks with a tarp or other suitable closure
■ ☐ C	Cease Operations until Emission and Stability Standards are met
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer) _____

or, explain why this control measure is not applicable._____

_____

2(j) Track out prevention: (See provisions in Rule 316 section 307.6. Attach a map with dimensions of track out control devices)(§307.6)

Indicate at least one Primary and one Contingency Measures (Check)

☐ P ☐ C — Install and maintain (> 60 trucks) Check each column.(§307.6a)

√	EXIT		√	WASH DEVICE		√	SHAKE DEVICE
☐	Pave	AND	☐	Wheel Washer	AND	☐	Rumble Grate
☐			☐	Vehicle Wash		☐	
☐			☐	Cosmetic Wash		☐	

☐ P ☐ C — Install and maintain (< 60 trucks) Check each column.(§307.6b)

√	EXIT		√	DEVICE
☐	Pave	AND	☐	Rumble Grate
☐	Stabilized Gravel Pad		☐	Wheel Washer
☐			☐	Truck Washer

☐ P ☐ C	Install and maintain pavement and rumble grate. (At paved ready mix/hot asphalt facility; must select exemption below).[§307.6c(1)]
☐ P ☐ C	Install and maintain 50' gravel pad and rumble grate (At recycled asphalt and concrete exclusively; select exemption below).[§307.6c(2)]
☐ P ☐ C	Install and maintain ¼ mile road and rumble grate; select exemption below.[§307.6c(3)])
☐ P ☐ C	Install and maintain 100' gravel pad and rumble grate (At infrequent operations to include operations with State Mine identification, approved reclamation plans and bonding and which operate <52 days average over 3 years; must select exemption below).[§307.6c(4)]
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer) _____

or, explain why this control measure is not applicable._____

_____

2(k) Indicate which wheel wash exemption below(§307.6c)

Check YES or NO	
☐ Yes ☐ No	A facility has all paved internal roads and meters aggregate or related materials directly to a ready-mix or hot mix asphalt truck, with the exception of returned products. The owner and/or operator of the facility shall install, maintain, and use a rumble grate in compliance with Section 307.6(b) of this rule.
☐ Yes ☐ No	A facility is less than five acres in land size and handles recycled asphalt and recycled concrete exclusively. The owner and/or operator of the facility shall install, maintain, and use a rumble grate in compliance with Section 307.6(b) of this rule and shall install a gravel pad in compliance with Section 307.6(b)(4) of this rule on all unpaved internal roads leading to the facility exits leading to paved public roadways/paved areas accessible to the public.
☐ Yes ☐ No	A facility has a minimum of ¼ mile paved internal roads leading from a rumble grate to the facility exits leading to paved public roadways/paved areas accessible to the public.
☐ Yes ☐ No	A facility meets the definition of infrequent operations, as defined in Section 230 of this rule. The owner and/or operator of the facility shall install, maintain, and use a rumble grate in compliance with Section 307.6(b) of this rule and shall install a gravel pad in compliance with Section 307.6(b)(4) of this rule. The gravel pad shall be installed for a distance of no less than 100 feet from the rumble grate to the facility exits leading to paved public roadways/paved areas accessible to the public. The owner and/or operator of the facility shall keep records in accordance with Section 500 of this rule, as applicable. The owner and/or operator of the facility shall notify the Control Officer in the event that the facility will operate more than 52 days per year based on the average rolling 3-year period after June 8, 2005 and the owner and/or operator of the facility shall comply with Section 307.6 of this rule, as applicable.

2(l) Track out Distance: An owner and/or operator of a facility shall not allow track out to extend a cumulative distance of 25 linear feet or more from all facility exits onto paved areas accessible to the public. Notwithstanding the proceeding, the owner and/or operator of a facility shall clean up all other track out at the end of the workday.(§307.6d)

Indicate at least one Primary and one Contingency Measures (Check)	
☐ P ☐ C	Manually Sweep
☐ P ☐ C	Street Sweeper
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer) _____
or, explain why this control measure is not applicable._____ _____	

2(m) Cleaning Paved Roads Identified in The Dust Control Plan (§307.6e) (Check all that pertains to site.)

Indicate at least one Primary and one Contingency Measures (Check)	
☐ P ☐ C	Manually Sweep
☐ P ☐ C	Street Sweeper
☐ P ☐ C	Sweep the paved roads with a street sweeper by the end of each production work shift, if there is evidence of dirt and/or other bulk material extending a cumulative distance of 12 linear feet or more on any paved road. ≥ 60 trucks [§307.6 e.(1)].
☐ P ☐ C	Sweep the paved roads with a street sweeper by the end of every other work day. On the days that paved roads are not swept, the owner and/or operator of a facility shall apply water on at least 100 feet of paved roads or the entire length of paved roads leading to an exit to paved public roadways/paved areas accessible to the public, if such roadways are less than 100 feet long. <60 trucks [§307.6 e. (2)].
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer) _____
or, explain why this control measure is not applicable._____ _____	

2(n) Pad Construction for Processing Equipment (§307.7)

Indicate Primary and Contingency Measures (Check)	
☐ P (Required)	Maintain, and use fugitive dust control measures during the construction of pads for processing equipment, so as to meet all of the requirements in this rule (§307.7)
■ ☐ C	Cease Operations until Emission and Stability Standards are met.
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer) _____
or, explain why this control measure is not applicable._____ _____	

2(o) Spillage: the owner and/or operator of a facility shall implement the following fugitive dust control measures, as applicable, when spillage occurs (§307.8)

Indicate at least one Primary and one Contingency Measures (Check)	
☐ P ☐ C	a. Promptly remove any pile of spillage on paved haul/access roads/paved roads
☐ P ☐ C	b. Maintain in a stabilized condition any pile of spillage on paved haul/access roads/paved roads and remove such pile by the end of each day
☐ P ☐ C	c. Maintain in a stabilized condition all other piles of spillage with dust suppressants until removal.
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer) _____
or, explain why this control measure is not applicable or feasible _____ _____	

2(p) Night-Time Operations: The owner and/or operator of a facility shall implement, maintain, and use fugitive dust control measures at night, as approved in the Dust Control Plan. (§307.9)

Indicate all that apply (Check)	
☐ Yes ☐ No	Is there addition attachments for Night time Operations (Attach Night-Time Supplemental to Dust Control Plan if different from daylight operations)
☐ P ☐ C	Additional Measures_____ _____ _____ _____
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer) _____
or, explain why this control measure is not applicable._____ _____	

2(q) Fugitive Dust Control Measure for: Crushing and Screening (Rule 316 §301) The owner and/or operator shall implement the following process controls:

Indicate at least one Primary and one Contingency Measures (Check)	
☐ P (Required)	Enclose sides of all shaker screens.
☐ P (Required)	Permanently mount watering systems (e.g., spray bars or an equivalent control) on the points listed below for crushers, shaker screens, and material transfer points. (1) Inlet and outlet of all crushers; (2) Outlet of all shaker screens; and (3) Outlet of all material transfer points, excluding wet plants.
☐ P (Required)	Operate watering systems (e.g., spray bars or an equivalent control) on the points listed in Section 301.2(b) of this rule for crushers, shaker screens, and material transfer points, excluding wet plants, to continuously maintain a 4% minimum moisture content
☐ P ☐ C	Enclose and exhaust the regulated process to a properly sized fabric filter baghouse. [Include in Operations and Maintenance Plan (O&M)]
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer) _____
or, explain why this control measure is not applicable._____ _____	

2(r) Fugitive Dust Control Measure for Asphaltic Concrete Plants Equipment(Rule 316§302)

Indicate at least one Primary and one Contingency Measures (Check)	
☐ P (Required)	The owner and/or operator shall, from all drum dryers, control and vent exhaust to a properly sized fabric filter baghouse.
■ ☐ C	Cease Operations until Emission and Stability Standards are met.
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer)_____
or, explain why this control measure is not applicable._____	

2(s) Fugitive Dust Control Measure for Raw Material Storage and Distribution, Concrete Plants, and/or Bagging Operations Equipment.(Rule 316 §303) The owner and/or operator shall implement the following process controls:

Check all that apply	
☐ Yes ☐ No	On all cement, lime, and/or fly-ash storage silo(s), install an operational overflow warning system/device. The system/device shall be designed to alert operator(s) to stop the loading operation when the cement, lime, and/or fly-ash storage silo(s) are reaching a capacity that could adversely impact pollution abatement equipment.
☐ Yes ☐ No	On new cement, lime, and/or fly-ash storage silos, install a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf.
☐ Yes ☐ No	On dry mix concrete plant loading stations/truck mixed product, implement one of the following process controls: [Check one or more]

√	Control
	Install a rubber fill tube;
	Install a water spray
	Baghouse or delivery system
	Enclose mixer loading stations
	Conduct mixer loading stations in an enclosed process building

☐ Yes ☐ No	On cement silo filling processing/loading operations controls, install a pressure control system designed to shut-off cement silo filling processes/loading operations, if pressure from delivery truck is excessive, as defined in O&M Plan.
■ ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer)
or, explain why this control measure is not applicable._____	

2(t) Soil Moisture Testing for Watering Systems: Moisture testing shall include all aggregate material less than 0.25 inch in diameter. (§502)

Contents of Moisture Testing Protocol— Applicable to All Sources

All owner/operators, including those who chose to comply with the default minimum 4% moisture content, must submit a basic moisture testing protocol with their revised Dust Control/Operation and Maintenance Plan. The basic moisture testing protocol may be revised through the submittal and approval of alternative demonstrations or justifications described in III and IV below. **Note: The results of all moisture tests must be recorded to the nearest tenth of a percent.** The basic moisture testing protocol must contain the following information:

A. Process diagram identifying progression of material containing ¼ minus product through the process:
   1. Identify all screen outlets and corresponding sampling points of material containing ¼ minus product
   2. Identify all crusher outlets and corresponding sampling points of material containing ¼ minus product
   3. Identify all stacker points and corresponding sampling points of material containing ¼ minus product
B. Provide an explanation or justification for each sampling point that can not be located as described in Rule 316 Section 502.3(c)
C. Explanation of whether or not a dust control technician is required for the site, and
D. Identification of which sampling frequency applies to the site, daily or twice daily. See Sections 301.2(c)(3)(a) or (b).

Check all that apply	
☐ Yes ☐ No	If twice daily moisture sampling is required, such sampling shall be conducted within one hour of startup and again at 3 pm or within one hour prior to daily shutdown but no less frequently than once every 8-hour period.
☐ Yes ☐ No	If daily moisture sampling is required, such sampling shall be conducted within one hour after startup
☐ Yes ☐ No	Moisture testing is not required on a crusher and/or screen plant equipped with a baghouse or fabric filter, electrostatic precipitator, or wet scrubber, excluding wet spray bars, for control of particulate matter.
☐ Yes ☐ No	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer)_____
or, explain why this control measure is not applicable._____ _____	

2(u) Weed Abatement By Discing or Blading(R310 §305.8)

Indicate at least one Primary and one Contingency Measures (Check)	
☐ P (Required)	Pre-water site AND apply water before and during weed abatement by discing or blading
☐ P (Required)	Apply water in combination with dust suppressant(s) before and during weed abatement by discing or blading
☐ C (Contingency Only)	Limit vehicle speed to 15 m.p.h. during discing and blading operations
☐ C (Contingency Only)	Cease operations
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer)_____
or, explain why this control measure is not applicable._____	

2(v) Blasting (NOTE: Discontinue blasting, if wind gusts above 25 m.p.h.(R310 §305.9))

Indicate at least one Primary and one Contingency Measures (Check)	
☐ P ☐ C	Apply water
☐ P ☐ C	Apply water in combination with dust suppressant(s) (Attach Suppressant info to DCP if available; otherwise have available on site)
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer)
or, explain why this control measure is not applicable._____	

2(w) Demolition (owner operator responsible for any NESHAP requirements)(R310 §305.10)

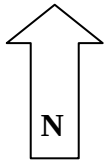
Indicate at least one Primary and one Contingency Measures (Check)	
☐ P (Required)	Apply water or water in combination with dust suppressant(s) to demolition debris immediately following demolition activity
☐ P (Required)	Apply water or water in combination with dust suppressant(s) to all surrounding areas and to all disturbed soil surfaces immediately following demolition activity
☐ P (Required)	Thoroughly clean and stabilize debris from paved and other surfaces following demolition activity
☐ P ☐ C	Other (not listed) measures taken so that the standards are met (Must be approved by Control Officer)
or, explain why this control measure is not applicable._____	

2(x) List dust suppressants to be applied, including product specifications or label instructions for approved usage: Please attach any additional information concerning environmental impacts and approvals or certifications related to appropriate and safe use for ground application.

Products to be applied**	Method, frequency, and intensity of application

Application equipment			
Type	Quantity	Capacity	Serial Number

2(y) Please include a drawing below (on 8½" x 11" paper), which shows the entire project site boundaries; Acres to be disturbed with linear dimensions; North arrow; unpaved and paved areas, planned truck exits with type of track out control equipment and dimensions, other exit locations onto paved public roadways. (You may use this page or one of your own, only maps on 8 ½ x 11 paper will be accepted)



Section 3 – Operation & Maintenance Plan

Operation and Maintenance (O&M) Plan Guidelines

This document provides guidance in the preparation of O&M Plans required as part of an Air Quality Permit and/or Maricopa County Air Pollution Control Regulations. The goal is to establish acceptable operating parameters and limits, maintenance procedures and schedules, and documentation methods that will demonstrate the control device is being properly operated and maintained. Multiple control devices can be combined in a single O&M Plan providing they are identical in type, capacity, and use. Each device that is unique in type, capacity, or use must be contained in a separate plan.

General Information
This information provides identification and a quick understanding of the facility and equipment and the basis for the O&M Plan.

Operation Plan
Key operating parameters are quantifiable parameters (pressure drops, temperatures, flow rates, etc.) that, once properly defined, are considered indicators that a control device is functioning as designed. Operations log sheets should, at a minimum, contain the following information: date and time of readings; identification of the individual recording the data; operating parameters to be monitored including units of measure, allowable operating range (upper and/or lower limits, if applicable), and space for recording measurements; measurement frequency; and space for additional information such as corrective action taken or general comments. A log sheet must be completed for every day the process and control device are in operation. All values are to be recorded including those out of range at the time readings are taken. Sample operations log sheets are available from the Department for common types of control devices and it would be preferred that these forms be used, if possible. A copy of the actual log sheet(s) to be used at the facility are to be included in the O&M Plan.

If an automatic data recording system will be used, provide information on its measurement frequency and how the information will be recorded in addition to the above requirements. If recording charts are used, provide space on the charts to document the date, time, and initials of the individual checking system performance. If changing the location of the measurement device would affect its reading (for example, the location of the thermocouple on an afterburner), then the location of the device must be documented either in the text of the O&M plan or through a scaled drawing.

Maintenance Plan
Maintenance procedures (inspections, cleanings, lubrications, adjustments, replacements, instrumentation calibrations, etc.) are performed on a routine basis to ensure the equipment remains in peak operating condition. Maintenance checklists should, at a minimum, contain the following information: date; identification of the individual performing the maintenance check; procedures to be performed including frequency of occurrence; results of inspection (acceptable, nozzle plugged, belt cracked, etc.); corrective action taken (none, cleaned nozzle, replaced belt, etc.); and space for additional information such as observations or general comments. Sample maintenance checklists, containing general preventative maintenance that should be considered, are available from the Department for common types of control devices and it would be preferred that these forms be used, if possible. A COPY OF THE ACTUAL CHECKLIST(S) TO BE USED AT THE FACILITY ARE TO BE INCLUDED IN THE O&M PLAN.

Other Information
Additional information, such as process diagrams, control device schematics, etc. may be included only if it would be helpful in understanding the O&M Plan. Please do not provide a copy of the O&M Plan supplied by the equipment manufacturer (Provide only as an attachment).

All O&M Plan forms are available electronically by accessing www.maricopa.gov/aq/.

Changes to an existing O&M Plan should be made by submitting a complete, revised O&M Plan with a cover letter identifying all changes and the reason for such changes. This document is meant to serve as a general guideline in the preparation of O&M Plans. Since unique circumstances may exist, the Department reserves the right to request additional information to ensure compliance with air quality regulations.

3(a) Form GENERAL INFORMATION

Business Name: _____

Business Address: _____

_____

_____

Permit Number: _____

Date of Preparation/Revision: _____

General description of overall facility operations: _____

_____

_____

_____

_____

_____

_____

Brief description of process(es) ducted to control device including pollutants emitted:

_____

_____

_____

_____

_____

_____

Complete description of control device(s) covered by the plan including manufacturer, model, rated capacity, total number of identical units, equipment identification number,

etc.: _____

_____

_____

_____

_____

_____

_____

3(b) Form OPERATION PLAN

List the operating parameters to be monitored including the units of measure (inches H2O, deg F, gpm, etc.), acceptable operating range (upper and/or lower limits), and frequency of recording measurements (daily, continuous, etc.)

PARAMETER	UNITS	LIMITS	FREQUENCY

List the method of recording measurements (manual, stripchart recorder, data acquisition system, etc.) and type of instrumentation (magnehelic, temperature sensor, flowmeter, etc.) with display range for each operating parameter:

PARAMETER	METHOD	INSTRUMENT	RANGE

Attach a copy of all operations log sheets, stripcharts, computer printouts, etc. utilized to document operating parameters of the control device.

Note: Instrumentation accuracy is expected to be comparable to industry standard for the specific type of instrumentation. Acceptable operating ranges may require modifications to reflect actual conditions during compliance testing. A log sheet must be completed for every day the process and control device are in operation. Records are required to be maintained for a minimum of five years.

3(c) Form MAINTENANCE PLAN

Maintenance procedures to be performed with the frequency of each procedure:

PROCEDURE	FREQUENCY

Attach a copy of all maintenance checklists, computer printouts, etc. utilized to document completion of maintenance procedures performed on the control device.

Notes: The spare parts inventory should be sufficient to handle all maintenance requirements and reasonably expected malfunction corrections. Records are required to be maintained for a minimum of five years.

Sample Operations Log Sheets & Preventative Maintenance Checklists

Attached are sample operations log sheets and preventative maintenance checklists for a variety of control devices and it would be preferred that these forms be used, if possible. Depending on the particular equipment and its application at your facility, some operating parameters and maintenance procedures may not be applicable or additional items may be necessary. If your specific control device is not one of those addressed in the attached forms, follow the O&M Plan Guidelines or contact the Department for assistance.

Operations Log Instructions

The operating parameters contained in the attached operations log sheets are representative of desirable operating parameters available for that equipment. Although it is highly recommended that as many of these parameters as possible be monitored and recorded, the minimum acceptable operating parameters for each control device are shown below:

Wet Scrubber: Scrubber pressure drop, recirculation rate, makeup water flowrate or blowdown rate, pH, and visible emissions.
Baghouse: Inlet temperature, baghouse pressure drop, and visible emissions.
Cyclone: Cyclone pressure drop and visible emissions.
Truck washer System pressure
Wheel Washer System pressure
Pressure control system designed to shut-off cement silo
Overflow warning system/device on cement, lime, and/or fly-ash storage silo
Dry mix concrete plant loading stations/truck maintenance instructions
Screening water system Spray Bar functioning, system pressure
Rock Crusher watering system: System pressure, Spray Bar Functioning (check for spray pattern and operation)
Rumble Grate cleaning and maintenance repair

Maintenance Checklist Instructions

The maintenance procedures and performance frequencies contained in the attached checklists are general procedures that should be considered for your equipment. Consult the equipment manufacturer for specific procedures and performance frequencies appropriate for your equipment.

It may be useful to create separate forms for each maintenance period (i.e. weekly, quarterly, etc.) or record multiple sets of weekly procedures, for instance, on one checklist.

WET SCRUBBER SYSTEM DAILY OPERATIONS LOG SHEET

This equipment applicable please check ☐YES or ☐NO)

PARAMETER	LIMITS	READINGS						
Scrubber pressure drop (in H2O)								
Recirculation rate (gpm)								
Makeup water flowrate (gpm)								
Blowdown rate (gpm)								
pH								
Conductivity								
Supply water pressure (psig)								
Visible emissions (excluding water vapor)								
Date								
Time								
Technician								

COMMENTS (INCLUDING CORRECTIVE ACTION TAKEN):

WET SCRUBBER SYSTEM PREVENTATIVE MAINTENANCE CHECKLIST

This equipment applicable please check ☐YES or ☐NO)

DATE: _____ TECHNICIAN: _____

WEEKLY PROCEDURES:	RESULTS	ACTION TAKEN
Check pump & fan motor for unusual vibration, noise, or heat		
Inspect system for leaks		
Check system dampers for proper operation		
Check chemical metering pumps & probes for proper operation		

MONTHLY PROCEDURES:	RESULTS	ACTION TAKEN
Inspect spray nozzle distribution pattern		
Inspect/clean flow strainer		
Check fan housing drain		
Check condition of fan bearings, belts, & seals		
Inspect fan impeller & blades for solids buildup or erosion		

QUARTERLY PROCEDURES:	RESULTS	ACTION TAKEN
Inspect packing for breakage & settling		
Check piping for erosion or plugging		

SEMI-ANNUAL PROCEDURES:	RESULTS	ACTION TAKEN
Calibrate instrumentation		
Inspect sump, packing, & ductwork for solids buildup		
Inspect tower internals for corrosion or breakage		
Inspect ductwork, fan, & structural supports for deterioration/damage		

COMMENTS: _____

PRESSURE CONTROL SYSTEM designed to shut-off cement silo or OVERFLOW WARNING SYSTEM/DEVICE on cement, lime, and/or fly-ash storage silo

This equipment applicable please check ☐YES or ☐NO)

PARAMETER	LIMITS	READINGS						
Visible emissions present at outlet								
Gage reading (Pressure)								
Gauge Reading (Overflow)								
Continuity Check (Pressure)								
Continuity Check (Overflow)								
Date								
Time								
Technician								

COMMENTS (INCLUDING CORRECTIVE ACTION TAKEN): _____

MAINTENANCE CHECKLIST for _____

DATE: _____ TECHNICIAN: _____

DAILY PROCEDURES:	RESULTS	ACTION TAKEN

WEEKLY PROCEDURES:	RESULTS	ACTION TAKEN

MONTHLY PROCEDURES:	RESULTS	ACTION TAKEN

QUARTERLY PROCEDURES:	RESULTS	ACTION TAKEN

SEMI-ANNUAL PROCEDURES:	RESULTS	ACTION TAKEN

COMMENTS: _____

TRUCK WASHER or WHEEL WASHER Maintenance Checklist

This equipment applicable please check ☐YES or ☐NO)

PARAMETER	LIMITS	READINGS						
System pressure (40 PSI)								
Water pump operation								
Spray nozzles								
Date								
Time								
Technician								

COMMENTS (INCLUDING CORRECTIVE ACTION TAKEN):

MAINTENANCE CHECKLIST FOR SCREEN WATERING SYSTEM

PARAMETER	LIMITS	READINGS						
Spray Bar functioning, system pressure								
Spray Nozzles Condition and Pattern								
Date								
Time								
Technician								

COMMENTS (INCLUDING CORRECTIVE ACTION TAKEN):

MAINTENANCE CHECKLIST for _____

DATE: _____ TECHNICIAN: _____

DAILY PROCEDURES:	RESULTS	ACTION TAKEN

WEEKLY PROCEDURES:	RESULTS	ACTION TAKEN

MONTHLY PROCEDURES:	RESULTS	ACTION TAKEN

QUARTERLY PROCEDURES:	RESULTS	ACTION TAKEN

SEMI-ANNUAL PROCEDURES:	RESULTS	ACTION TAKEN

COMMENTS: _____

MAINTENANCE CHECKLIST FOR ROCK CRUSHER WATERING SYSTEM:

PARAMETER	LIMITS	READINGS						
SYSTEM PRESSURE								
SPRAY BAR FUNCTIONING (CHECK FOR SPRAY PATTERN AND OPERATION)								
Date								
Time								
Technician								

COMMENTS (INCLUDING CORRECTIVE ACTION TAKEN):

Baghouse Number ____

BAGHOUSE DAILY OPERATIONS LOG SHEET (This equipment applicable please check ☐YES or ☐NO)
(Must have plan for all baghouses)

PARAMETER	LIMITS	READINGS						
Inlet temperature (°F)								
Outlet temperature (°F)								
Baghouse pressure drop (in H2O)								
Compressed air pressure (psi)								
Visible emissions present at outlet								
Date								
Time								
Technician								

COMMENTS (INCLUDING CORRECTIVE ACTION TAKEN): _____

BAGHOUSE PREVENTATIVE MAINTENANCE CHECKLIST

(This equipment applicable please check ___YES or ___NO)

DATE: _____ TECHNICIAN: _____

DAILY PROCEDURES:	RESULTS	ACTION TAKEN
Monitor cleaning system cycle		

WEEKLY PROCEDURES:	RESULTS	ACTION TAKEN
Check for proper system damper operation		
Check bag tension		
Check compressed air system		
Activate key shutdown or bypass controls		

MONTHLY PROCEDURES:	RESULTS	ACTION TAKEN
Spot-check bag condition & seating		
Inspect system for corrosion & material buildup		
Check all moving parts for vibration, wear, & alignment		

QUARTERLY PROCEDURES:	RESULTS	ACTION TAKEN
Thoroughly inspect bags		
Inspect door gaskets		
Check for dust buildup in ducts		
Check proper damper valve seating		

SEMI-ANNUAL PROCEDURES:	RESULTS	ACTION TAKEN
Calibrate instrumentation		
Check cleaning system for rebalance requirement		
Inspect baffles, hopper duct, etc. for wear		
Inspect general structural integrity of system		

COMMENTS: _____

CYCLONE DAILY OPERATIONS LOG SHEET (This equipment applicable please check ___YES or ___NO)

PARAMETER	LIMITS	READINGS						
Inlet temperature (°F)								
Cyclone pressure drop (in H2O)								
Gas velocity (ft/sec)								
Visible emissions present at outlet								
Date								
Time								
Technician								

COMMENTS (INCLUDING CORRECTIVE ACTION TAKEN): _____

CYCLONE PREVENTATIVE MAINTENANCE CHECKLIST

(This equipment applicable please check ___YES or ___NO)

DATE: _____ TECHNICIAN: _____

MONTHLY PROCEDURES:	RESULTS	ACTION TAKEN
Inspect cyclone & ductwork for plugging		
Check for proper damper settings		
Check condition of cyclone walls & fan blades		
Inspect dust discharge mechanisms for leakage from dust discharge		

COMMENTS: _____